Florida Fish and Wildlife Conservation Commission
Division of Habitat and Species Conservation
Land Conservation and Planning
Lake Harney Florida Forever Proposal Project Analysis
December 2023

This document contains the Florida Fish and Wildlife Conservation Commission's (FWC) Geographic Information System (GIS) data analysis of the area yet to be acquired within the **Lake Harney** Florida Forever proposal project. This analysis was performed to provide FWC and others with important fish and wildlife resource information to be used in evaluating and ranking Florida Forever projects. The data selected for analysis are those considered by FWC to spatially reflect important fish and wildlife habitat and life history requirements.

In addition, FWC has completed a field review and associated assessment report for this project/proposal that is incorporated within the Acquisition and Restoration Council Florida Forever Project Evaluation Report. This report is available upon request.

GIS Data

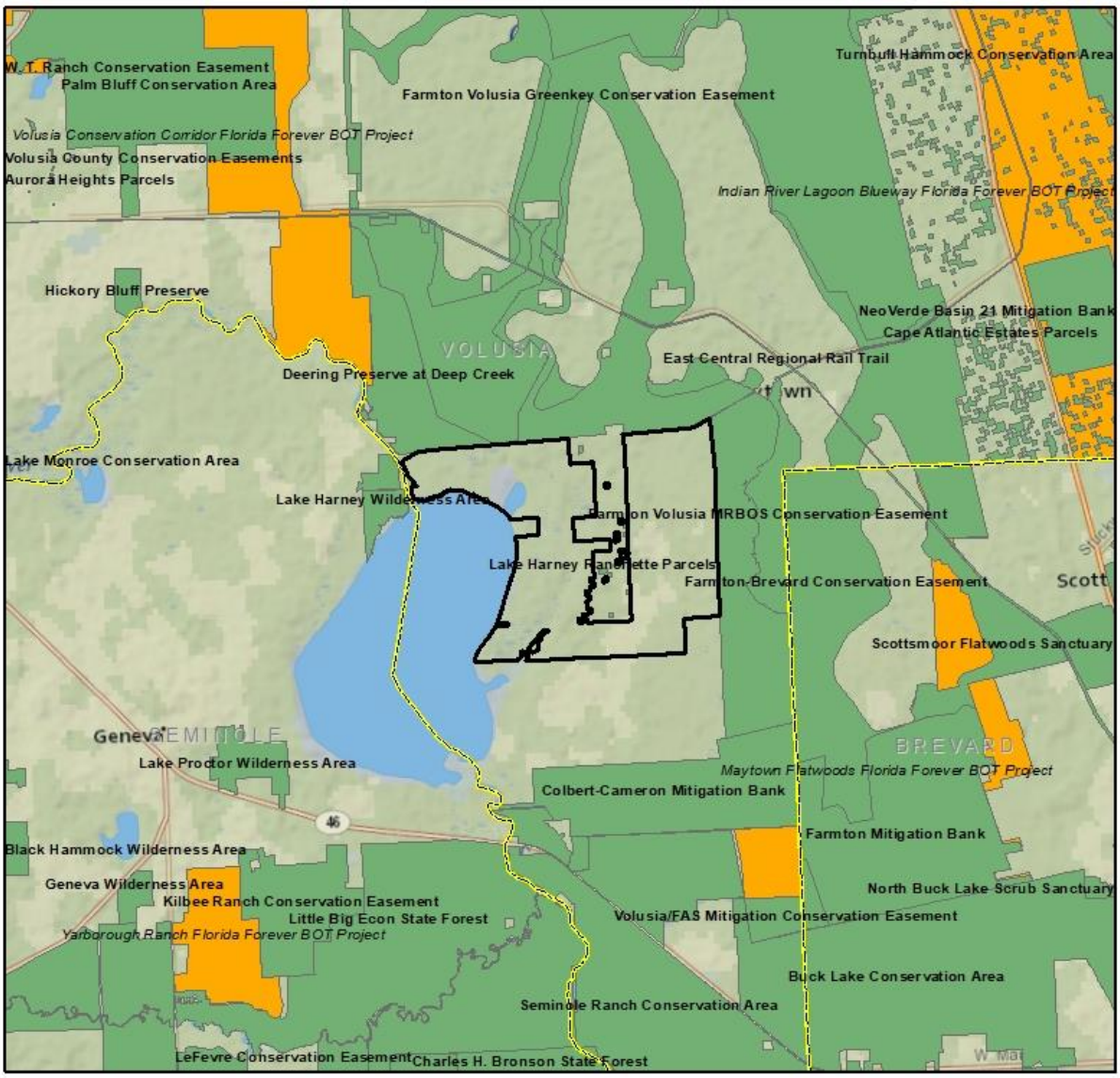
The FWC utilizes the Florida Cooperative Land Cover (CLC) GIS data layer for identification and mapping of land cover. The CLC is a cooperative effort between the FWC and the Florida Natural Areas Inventory (FNAI) to develop ecologically-based statewide land cover from existing sources and expert review of aerial photography. Land cover acreage estimates found in this document are based on GIS analysis of these data.

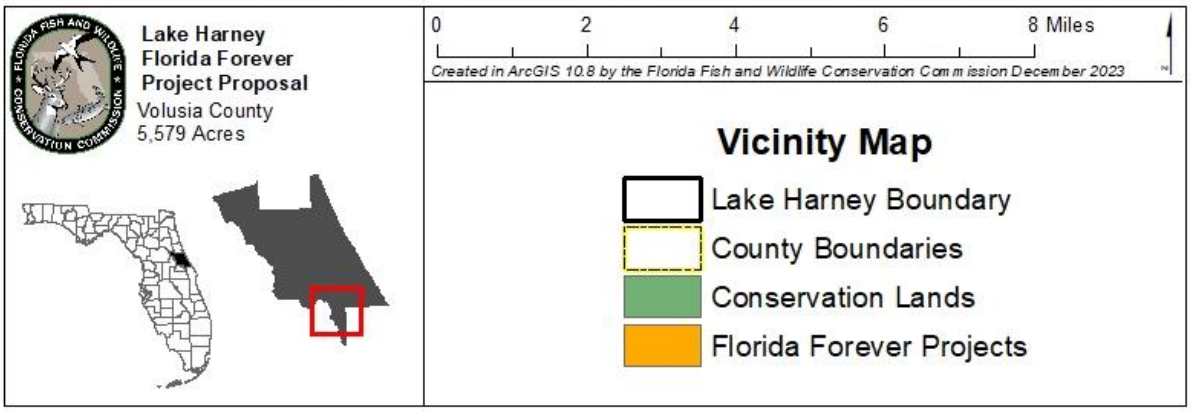
The FWC Florida Landscape Assessment Model (FLAM)[1] is a GIS model that determines the landscape value based on natural resources and fish and wildlife habitat. The FLAM ranks habitat from a 0-10; a rank of 10 being of greatest value.

Important fish and wildlife resource GIS data were queried using Environmental Resource Analysis GIS computer software. These data include the following GIS layers:

- FWC-FNAI Florida Cooperative Land Cover
- FWC Strategic Habitat Conservation Areas – Priority and Species
- Critical Lands and Waters Identification Project (CLIP) – Priority 1 and 2 – Terrestrial and Water
- CLIP – Landscape, Biodiversity, and Floodplain Resources
- Panther Location
- Panther Mortality
- Florida Panther Priority Habitat (Primary, Secondary, and Dispersal)
- Black Bear Range
- Rare Fish Locations/ Imperiled Waters
- Southern Bald Eagle Nest
- FWC Imperiled Species Richness
- FNAI Element Occurrences

- FNAI Suitable Habitat that Supports Species Known to Occur in the Vicinity
- Florida Department of Environmental Protection Surface Water Classification
- U.S. Fish and Wildlife Service (USFWS) - National Wetlands Inventory
- USFWS Critical Habitat
- Florida Geological Survey Springs
- Outstanding Florida Waters
- Areas of Critical State Concern


W. T. Ranch Conservation Easement
Palm Bluff Conservation Area
Farmton Volusia Greenkey Conservation Easement
Turnbuff Hammock Conservation Area
Volusia Conservation Corridor Florida Forever BOT Project
Volusia County Conservation Easements
Aurora Heights Parcels
Indian River Lagoon Blueway Florida Forever BOT Project
Hickory Bluff Preserve
NeoVerde Basin 21 Mitigation Bank
Cape Atlantic Estates Parcels
VOLUSIA
East Central Regional Rail Trail
Deering Preserve at Deep Creek
Lake Monroe Conservation Area
Lake Harney Wilderness Area
Farmton Volusia MRBOS Conservation Easement
Lake Harney Ranchette Parcels
Farmton-Brevard Conservation Easement
Scott
Scottsmoor Flatwoods Sanctuary
Geneva
SEMINOLE
BREVARD
Lake Proctor Wilderness Area
Maytown Flatwoods Florida Forever BOT Project
Colbert-Cameron Mitigation Bank
46
Farmton Mitigation Bank
Black Hammock Wilderness Area
Geneva Wilderness Area
North Buck Lake Scrub Sanctuary
Kilbee Ranch Conservation Easement
Little Big Econ State Forest
Volusia/FAS Mitigation Conservation Easement
Yarborough Ranch Florida Forever BOT Project
Buck Lake Conservation Area
Seminole Ranch Conservation Area
LeFevre Conservation Easement
Charles H. Bronson State Forest


Lake Harney
Florida Forever
Project Proposal
Volusia County
5,579 Acres
0
2
4
6
8 Miles
Created in ArcGIS 10.8 by the Florida Fish and Wildlife Conservation Commission December 2023
Vicinity Map
Lake Harney Boundary
County Boundaries
Conservation Lands
Florida Forever Projects

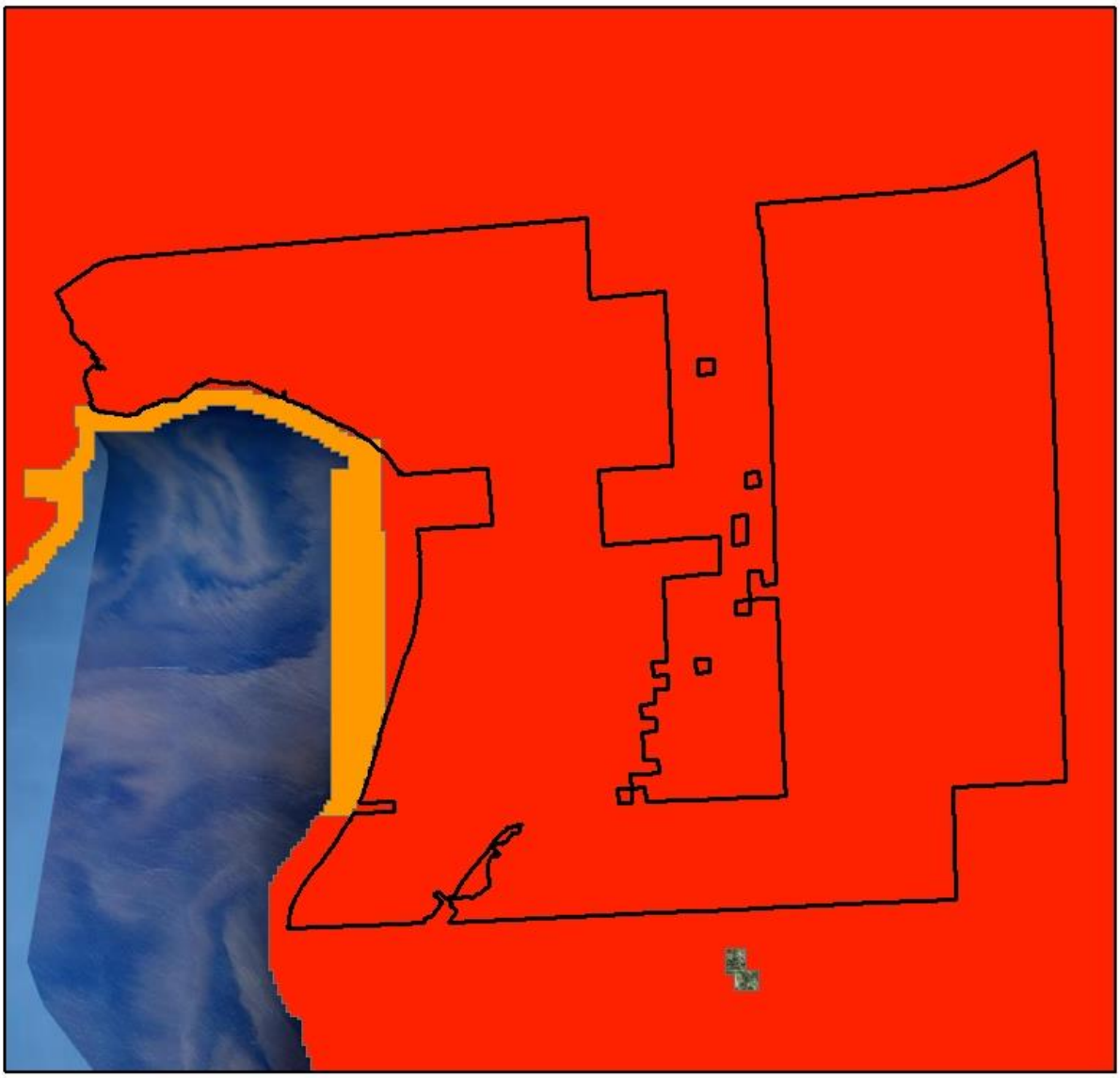
Lake Harney
Florida Forever
Project Proposal
Volusia County
5,579 Acres

0 0.5 1 1.5 2 Miles

Created in ArcGIS 10.8 by the Florida Fish and Wildlife Conservation Commission December 2023

Aerial Imagery

Lake Harney Boundary



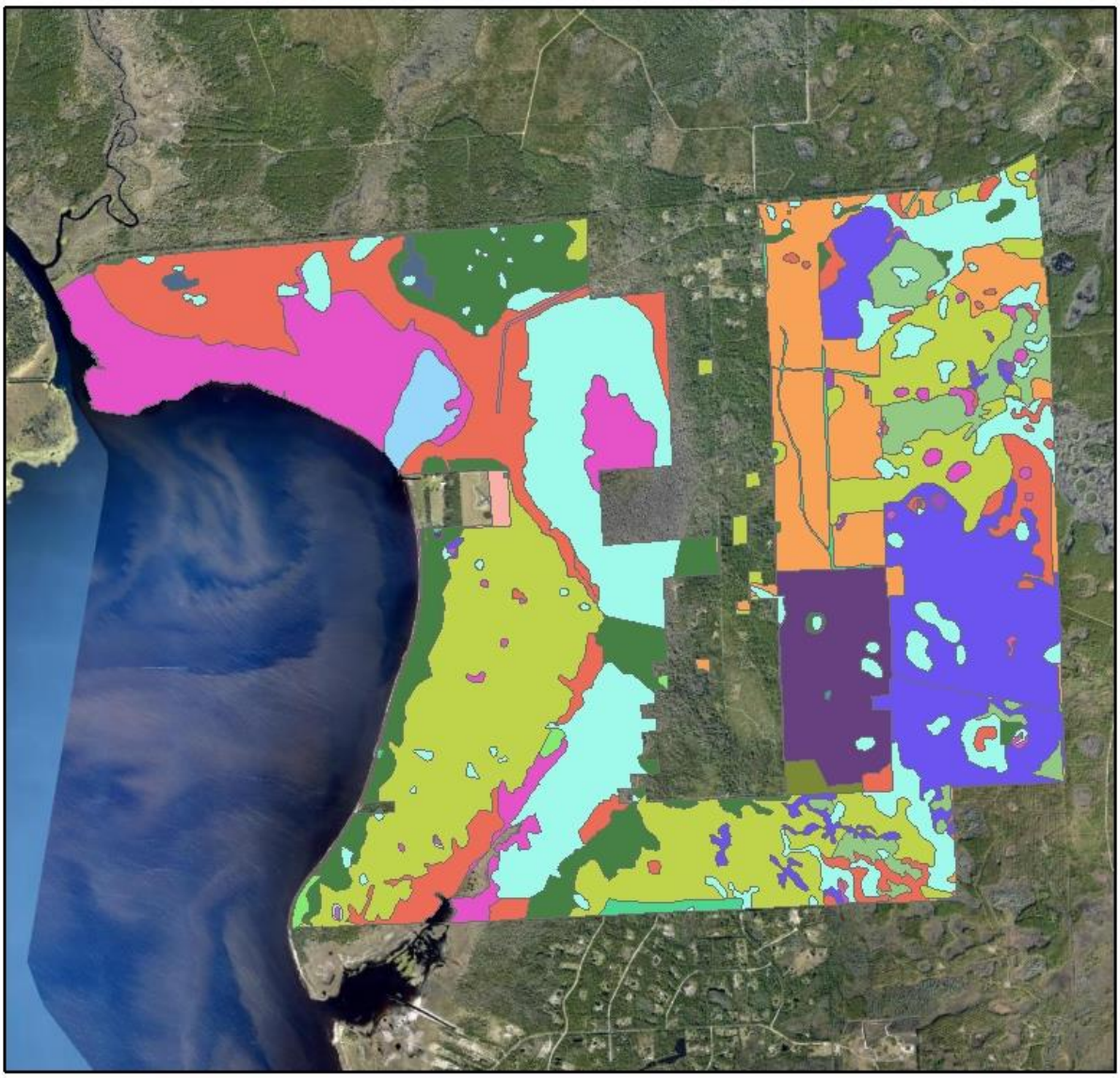
Lake Harney
Florida Forever
Project Proposal
Volusia County
5,579 Acres

0 0.5 1 1.5 2 Miles

Created in ArcGIS 10.8 by the Florida Fish and Wildlife Conservation Commission December 2023

Florida Wildlife Corridor Priorities

- Lake Harney Boundary
- Priority 1
- Priority 2
- Priority 3
- Priority 4
- Priority 5



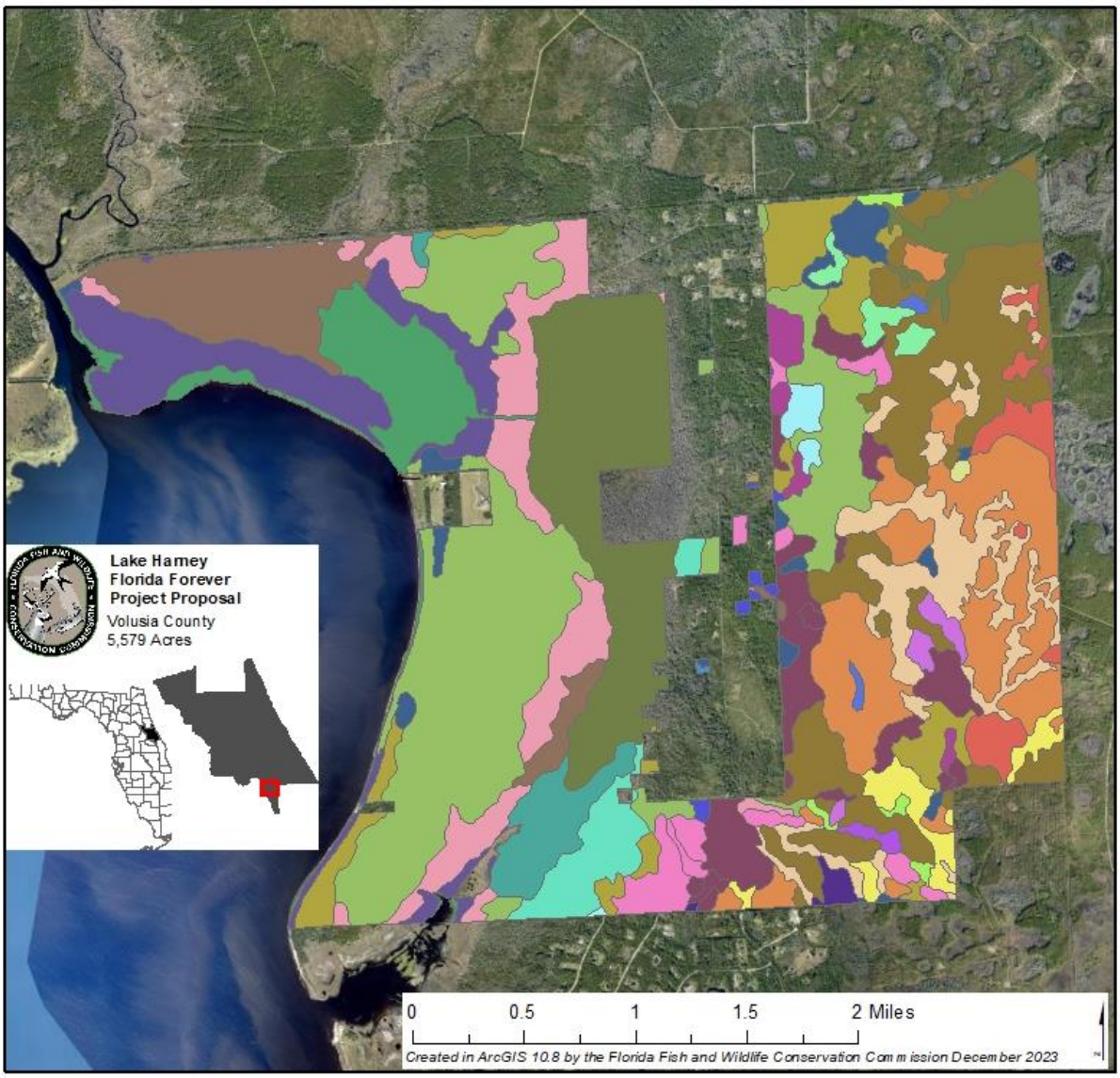
Lake Harney
Florida Forever
Project Proposal
Volusia County
5,579 Acres

0 0.5 1 1.5 2 Miles

Created in ArcGIS 10.8 by the Florida Fish and Wildlife Conservation Commission December 2023

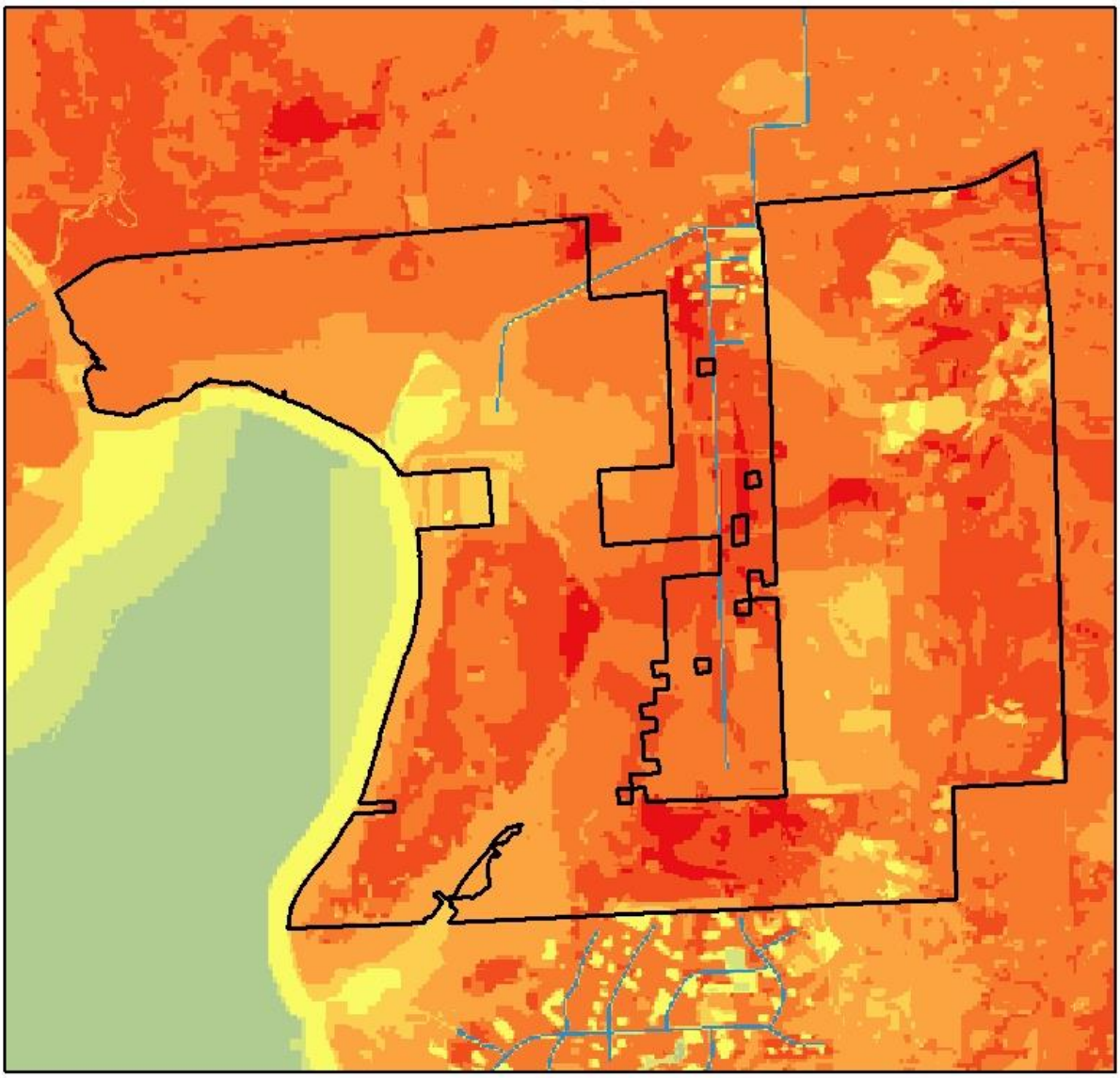
Cooperative Land Cover

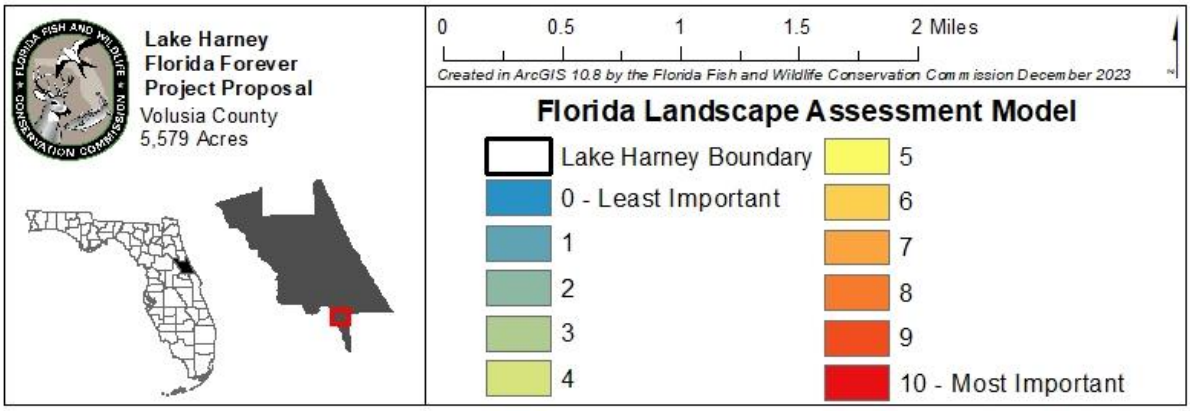
- Cropland/Pasture
- Cultural-Lacustrine
- Cypress
- Dry Flatwoods
- Freshwater Forested Wetlands
- Freshwater Non-Forested Wetlands
- Hydric Hammock
- Improved Pasture
- Isolated Freshwater Marsh
- Lacustrine
- Marshes
- Mesic Hammock
- Mixed Hardwood-Coniferous
- Prairies and Bogs
- Riverine
- Rural
- Sand Beach (Dry)
- Shrub and Brushland
- Transportation
- Tree Plantations
- Wet Flatwoods



Soil Types

- Basinger fine sand, frequently ponded
- Cassia fine sand
- Chobee fine sandy loam
- Daytona sand
- EauGallie fine sand
- Farmton fine sand
- Fluvaquents
- Hontoon muck, frequently ponded
- Immokalee sand
- Malabar fine sand
- Myakka fine sand, frequently ponded
- Myakka-Myakka, wet, fine sands
- Myakka-St. Johns complex
- Paisley fine sand
- Pineda-Pineda, wet, fine sand
- Pinellas fine sand
- Placid fine sand, frequently ponded
- Pomona fine sand
- Pomona-St. Johns complex
- Riviera fine sand
- Samsula muck, frequently ponded
- Scoggin sand
- Smyma-Smyrna, wet, fine sand
- St. Johns fine sand
- Tequesta muck, frequently ponded
- Tomoka muck, frequently ponded
- Valkaria fine sand
- Wabasso-Wabasso, wet, fine sand
- Water
- Wauchula fine sand
- Winder fine sand




Lake Harney
Florida Forever
Project Proposal
Volusia County
5,579 Acres
0
0.5
1
1.5
2 Miles
Created in ArcGIS 10.8 by the Florida Fish and Wildlife Conservation Commission December 2023
Florida Landscape Assessment Model
Lake Harney Boundary
0 - Least Important
1
2
3
4
5
6
7
8
9
10 - Most Important

FWC Florida Landscape Assessment Model 2023		
	Value	Acres
	0	6.5
	1	0.0
	2	0.0
	3	0.0
	4	2.6
	5	59.1
	6	404.0
	7	1207.7
	8	2389.2
	9	1353.7
	10	154.9
Mean FLAM value =	**7.9**	

Comments:

[1] FWC has developed a GIS-based assessment tool that incorporates a wide variety of land cover and wildlife species data. These wildlife species include imperiled species and locally important species. Application of this model assists in the identification and conservation of important wildlife habitats. The FLAM ranks the Florida landscape based upon important natural resources and habitat needs of wildlife as a way to identify ecologically significant lands in the state, and to assess the potential impacts of land development projects on wildlife populations. The FLAM is provided as part of the FWC's continuing technical assistance to various local, regional, state, and federal agencies, and entities interested in wildlife needs and conservation in order to: (1) determine ways to avoid or minimize project impacts by evaluating alternative placements, alignments, and transportation corridors during early planning stages, (2) assess direct, secondary, and cumulative impacts to habitat and wildlife resources, and (3) help identify appropriate parcels for land conservation, and for wetland and upland habitat mitigation.

Environmental Resource Analysis

FWC Land Conservation and Planning

Analysis Shape Type: Polygon
Analysis Timestamp: 12282023 07:50:40
Shape Name: Unnamed polygon centered at -81.020726 °, 28.776926 °
Boundary Area: 5579.21 acres
Buffer Area: 0 acres
Total Area: 5579.21 acres

FWC Wildlife Data and Models

Cooperative Land Cover v3.7

Name - State	Code - State	Name - Site	Code - Site	Total Area (acres)	Percent of Area
Lacustrine	3000	Lacustrine	3000	64.23	1.15 %
Cultural-Lacustrine	3200	Artificial Impoundment/Reservoir	3220	0.70	0.01 %
Riverine	4000	Riverine	4000	0.16	0 %
Wet Flatwoods	2221	Wet Flatwoods	2221	352.49	6.32 %
Freshwater Forested Wetlands	2200	Mixed Wetland Hardwoods	2233	64.15	1.15 %
Freshwater Forested Wetlands	2200	Mixed Hardwood-Coniferous Swamps	2240	386.49	6.93 %
Wet Flatwoods	2221	Hydric Pine Flatwoods	22211	262.50	4.71 %
Rural	1830	Unimproved/Woodland Pasture	183314	0.40	0.01 %
Tree Plantations	18333	Coniferous Plantations	183332	455.03	8.16 %
Transportation	1840	Transportation	1840	7.37	0.13 %
Hydric Hammock	2232	Cabbage Palm Hammock	22323	13.24	0.24 %
Cropland/Pasture	18331	Field Crops	183312	14.54	0.26 %
Improved Pasture	183313	Improved Pasture	183313	269.74	4.83 %
Shrub and Brushland	1500	Shrub and Brushland	1500	186.64	3.35 %
Sand Beach (Dry)	1670	Sand Beach (Dry)	1670	10.14	0.18 %
Rural	1830	Rural Open	1831	40.55	0.73 %
Mesic Hammock	1120	Cabbage Palm	1125	18.31	0.33 %
Dry Flatwoods	1310	Mesic Flatwoods	1311	1,184.60	21.23 %
Mixed Hardwood-Coniferous	1400	Mixed Hardwood-Coniferous	1400	20.92	0.37 %
Rural	1830	Rural Structures	1832	1.79	0.03 %
Isolated Freshwater Marsh	2121	Isolated Freshwater Marsh	2121	8.58	0.15 %
Freshwater Non-Forested Wetlands	2100	Floating/Emergent Aquatic Vegetation	2140	0.42	0.01 %
Cypress	2211	Cypress	2211	975.18	17.48 %
Prairies and Bogs	2110	Wet Prairie	2111	78.19	1.4 %
Prairies and Bogs	2110	Mixed Scrub-Shrub Wetland	2112	618.22	11.08 %
Marshes	2120	Marshes	2120	544.64	9.76 %
			TOTAL:	5,579.21	100 %

Critical Lands and Waters Identification Project (CLIP) Priority 1 and 2 - Terrestrial and Waters

CLIP Priority	Total Area (acres)	Percent of Area
All other cells	22.43	0.4 %
CLIP P1 in submerged lands/state waters	443.27	7.95 %
CLIP P1 in terrestrial	4,946.44	88.66 %
CLIP P2 in submerged lands/state waters	144.05	2.58 %
CLIP P2 in terrestrial	23.03	0.41 %
TOTAL:	5,579.21	100 %

CLIP- Landscape Category

Priority	Total Area (acres)	Percent of Area
2	0.80	0.01 %
3	1.45	0.03 %
5	5,576.96	99.96 %
TOTAL:	5,579.21	100 %

CLIP- Biodiversity Category

Priority	Total Area (acres)	Percent of Area
0	125.83	2.26 %
1	29.31	0.53 %
2	752.92	13.5 %
3	1,276.26	22.88 %
4	3,394.88	60.85 %
TOTAL:	5,579.21	100 %

Priority FWC Strategic Habitat Conservation Areas 2021

Priority	Total Area (acres)	Percent of Area
0	2,203.24	39.49 %
2	2,305.35	41.32 %

3	1,066.21						19.11 %	
5	4.41						0.08 %	
TOTAL:	5,579.21						100 %	

FWC Strategic Habitat Conservation Areas 2009

Species 1	Species 2	Species 3	Species 4	Species 5	Species 6	Total Area (acres)	Percent of Area
American swallow-tailed kite						1,036.02	18.57 %
Cooper's hawk						4.45	0.08 %
Cooper's hawk	American swallow-tailed kite					21.75	0.39 %
Florida black bear						1,143.31	20.49 %
Florida black bear	American swallow-tailed kite					543.87	9.75 %
Florida black bear	Cooper's hawk					335.70	6.02 %
Florida black bear	Cooper's hawk	American swallow-tailed kite				280.57	5.03 %
Florida black bear	Florida scrub jay	American swallow-tailed kite				0.65	0.01 %
					TOTAL:	3,366.32	60.34 %

Panther location

No Records Found

Panther mortality

No Records Found

Panther Priority Habitat

No Records Found

Bear Range

Bear Range	Total Area (acres)	Percent of Area
Common	3,351.04	60.06 %
Occasional	2,228.17	39.94 %
TOTAL:	5,579.21	100 %

Rare Fish

No Records Found

Rare Fish Imperiled Waters

COMMON NAME	SCIENTIFIC NAME	Total Area (acres)	Percent of Area
Lake Eustis pupfish	Cyprinodon variegatus hubbsi	1,342.56	24.06 %
Sea lamprey	Petromyzon marinus	1,342.56	24.06 %
Snail bullhead	Ameiurus brunneus	1,342.56	24.06 %
	TOTAL:	4,027.69	72.19 %

Southern bald eagle nest

Nest Count	Earliest Survey Year	Latest Survey Year	Total Area (acres)	Percent of Area
1	1998	2001	20.09	0.36 %
3	2001	2016	31.90	0.57 %
		TOTAL:	51.99	0.93 %

Imperiled Species Richness

Number of Species	Total Area (acres)	Percent of Area
0	554.41	9.94 %
1	321.26	5.76 %
2	1.87	0.03 %
3	42.76	0.77 %
4	19.21	0.34 %
5	1,070.04	19.18 %
6	1,928.40	34.56 %
7	1,416.54	25.39 %
8	224.71	4.03 %
TOTAL:	5,579.21	100 %

Florida Natural Areas Inventory Data

Element Occurrences

COMMON NAME	SCIENTIFIC NAME	GLOBAL RANK	STATE RANK	FWC STATUS	FEDERAL STATUS	EO Rank	Last Observation	Total Area (acres)	Percent of Area
Bald Eagle	Haliaeetus leucocephalus	G5	S3	N	N	E	2002	17.35	0.31 %
Bald Eagle	Haliaeetus leucocephalus	G5	S3	N	N	X?	1998	17.36	0.31 %
Florida Black Bear	Ursus americanus floridanus	G5T4	S4	N	N	B	2020-11-19	5,579.21	100 %
Florida Long-tailed Weasel	Mustela frenata peninsulae	G5T3?	S3?	N	N	H	1896 pre	297.14	5.33 %
McCrone's Burrowing Wolf Spider	Geolycosa xera	G2G3	S2S3	N	N	H	1963 pre	48.16	0.86 %
North Peninsular Mycotrupes Beetle	Mycotrupes gaigei	G2G3	S2S3	N	N	H	1960-04-20	26.74	0.48 %
St. Johns Elephantear	Elliptio monroensis	G1G2	S1S2	N	N	AC	2015 pre	243.34	4.36 %
							TOTAL:	6,229.31	111.65 %

Suitable Habitat that Supports Species Known to Occur in the Vicinity

COMMON NAME	SCIENTIFIC NAME	Total Area (acres)	Percent of Area
Florida Long-tailed Weasel	Mustela frenata peninsulae	5,047.84	90.48 %

Florida Sandhill Crane	Antigone canadensis pratensis	2,990.16	53.59 %
Tavares White Miller Caddisfly	Nectopsyche tavara	193.49	3.47 %
Wood Stork	Mycteria americana	1,860.79	33.35 %
	TOTAL:	10,092.28	180.89 %

USFWS

Critical Habitat

No Records Found

Area of Critical State Concern

Apalachicola

No Records Found

Big Cypress

No Records Found

Green Swamp

No Records Found

Key West

No Records Found

Lower Keys

No Records Found

Upper Keys

No Records Found

Florida Ecological Greenways Network

Wildlife Corridor Classification

Priority Level	Total Area (acres)	Percent of Area
1	5,577.74	99.97 %
2	1.47	0.03 %
TOTAL:	5,579.21	100 %

Water Resources

FDEP Surface Water Classification

Waterbody Name	Water Type	Water Basin	Classification	Total Area (acres)	Percent of Area
GOPHER SLOUGH	STREAM	2958	3F	4,983.90	89.33 %
ST. JOHNS RIVER BELOW LAKE HARNEY	STREAM	2964	3F	307.84	5.52 %
LAKE HARNEY	LAKE	2964A	3F	278.67	4.99 %
CABBAGE SLOUGH	STREAM	2966	3F	8.80	0.16 %
			TOTAL:	5,579.21	100 %

Outstanding Florida Waters

No Records Found

Florida Geological Survey Springs

No Records Found

National Wetlands Inventory

Wetland Type	Wetland Code	Total Area (acres)	Percent of Area
LAKE	L2AB4H	0.13	0 %
LAKE	L2USC	6.19	0.11 %
FRESHWATER EMERGENT WETLAND	PEM1A	18.51	0.33 %
FRESHWATER EMERGENT WETLAND	PEM1Cd	4.90	0.09 %
FRESHWATER EMERGENT WETLAND	PEM1C	590.77	10.59 %
FRESHWATER EMERGENT WETLAND	PEM1Fd	10.12	0.18 %
FRESHWATER EMERGENT WETLAND	PEM1F	131.01	2.35 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO2Ad	3.88	0.07 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO2C	204.09	3.66 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO1Cd	5.33	0.1 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO1C	4.88	0.09 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO1/3Cd	193.44	3.47 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO1Fd	0.74	0.01 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO1F	213.84	3.83 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO4Bd	12.11	0.22 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO4Cd	22.89	0.41 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO4C	30.39	0.54 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO2Fd	39.25	0.7 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO2F	467.23	8.37 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO2Cd	52.00	0.93 %
FRESHWATER FORESTED/SHRUB WETLAND	PSS1Cd	150.05	2.69 %
FRESHWATER FORESTED/SHRUB WETLAND	PSS1C	18.84	0.34 %
FRESHWATER FORESTED/SHRUB WETLAND	PSS1Ad	3.82	0.07 %

FRESHWATER FORESTED/SHRUB WETLAND	PSS1A	11.87	0.21 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO6F	228.93	4.1 %
FRESHWATER POND	PUBH	8.09	0.14 %
FRESHWATER FORESTED/SHRUB WETLAND	PSSF	1.42	0.03 %
FRESHWATER FORESTED/SHRUB WETLAND	PSS3B	1.00	0.02 %
FRESHWATER FORESTED/SHRUB WETLAND	PSS3C	11.82	0.21 %
FRESHWATER FORESTED/SHRUB WETLAND	PSS3/1C	7.61	0.14 %
FRESHWATER FORESTED/SHRUB WETLAND	PSS1Fd	52.53	0.94 %
FRESHWATER FORESTED/SHRUB WETLAND	PSS1F	10.05	0.18 %
RIVERINE	R4SBC	0.16	0 %
RIVERINE	R2UBHx	2.98	0.05 %
RIVERINE	R2AB4H	0.45	0.01 %
FRESHWATER POND	PUBHx	1.08	0.02 %
FRESHWATER POND	PUSC	15.02	0.27 %
RIVERINE	R5UBFx	0.33	0.01 %
RIVERINE	R2UBH	0.15	0 %
RIVERINE	R5UBH	0.13	0 %
LAKE	L1UBH	150.23	2.69 %
	TOTAL:	2,688.29	48.18 %

Priority Floodplain Resources

Priority	Total Area (acres)	Percent of Area
3	188.92	3.39 %
0	1,564.95	28.05 %
4	105.18	1.89 %
1	2,568.27	46.03 %
2	1,151.89	20.65 %
TOTAL:	5,579.21	100 %